

IN THE DRAWINGS:

Please accept the attached drawings as replacement drawings for those already submitted.

## REMARKS

### Remarks

This is a response to the Office Action dated August 9, 2005. Claims 10-17 are pending in the application. Claims 1 and 2 were rejected under 35 U.S.C. § 102(b) as being unpatentable over U.S. Pat. No. 5,062,350 ("Tanaka"). Claims 10-15 were rejected under 35 U.S.C. § 102(b) as being unpatentable over either U.S. Pat. No. 5,152,143 ("Kajita") or U.S. Pat. No. 5,813,312 ("Arai"). Claims 1-8 were rejected under 35 U.S.C. § 103 as being unpatentable over Kajita in view of U.S. Pat. No. 5,413,452 ("Lech"). Claims 1-7 and 9 were rejected under 35 U.S.C. § 103 as being unpatentable over Arai in view of U.S. Pat. No. 5,513,551 ("Morishita"). Claims 10-15 were rejected under 35 U.S.C. § 112 ¶2 as being indefinite. The drawings were also objected to because of informalities. These rejections and objections are believed to be overcome in view of the amendments made to claim 10, the cancellation of claims 1-9, and the amendment to Fig. 4 of the drawings.

The rejections and objections from the Office Action dated August 9, 2005 are discussed below in connection with the various claims. No new matter has been added. Reconsideration of the application is respectfully requested in light of the following remarks.

### Drawing Objections

The Examiner objected to the drawings by stating that "the fluid-flow biasing device (212) appears to be drawn as a fluid actuator, but is connected to a line (402) carrying an electrical signal, and therefore is confusing." Fig. 4 has been amended to more accurately show the fluid-flow biasing device as an electric actuator, with the hydraulic drain line removed. This is supported in the Specification, for example, in Paragraph 4: "A control device 400, such as an electronic control module (ECM), is coupled to the fluid flow control apparatus 206, and outputs a signal 402 indicative of inputted data to the fluid flow-biasing device 212." No new matter has been added.

### Rejections Under 35 U.S.C. § 112 ¶ 2

Claims 10-15 were rejected under 35 U.S.C. § 112 ¶ 2 as being indefinite. Applicants have amended claim 10 to correct the antecedent basis, and claims 11-15 depend

from claim 10. Applicants therefore request that the Examiner withdraw this rejection of these claims.

### **Rejections Under 35 U.S.C. § 102(b)**

#### **Claims 1-2**

Claims 1-2 were rejected pursuant to 35 U.S.C. § 102(b) as being anticipated by Tanaka. Applicants have cancelled claims 1-2, so this rejection is rendered moot.

#### **Independent Claim 10**

Independent claim 10 was rejected under 35 U.S.C. § 102(b) as being anticipated by either Kajita or Arai. Independent claim 10, as amended, relates to a method for controlling the fluid flow in a swing system of a machine having a linkage and a source of variable pressurized fluid. The swing system includes a flow-compensation device coupled to a directional flow device, with the flow-compensation device positioned **downstream** of the directional flow device along a direction of flow. The system also includes the step of **adjusting the source of variable pressurized fluid to maintain a generally constant angular swing velocity of the linkage using the flow-compensation device.**

According to the Examiner, Kajita discloses “a fluid flow control apparatus for a backhoe (fig 7) comprising a motor (23) of a swing system and a flow compensation device (35) coupled to a directional flow device (29) with a fluid flow biasing device (130, fig 23) including an actuator (132, 35a, 35b) coupled to a flow metering member of the flow compensation device; wherein a fluid pressure (e.g. via 43a) of the swing system is in communication with the actuator (35a, 35b), or the actuator (132) is coupled (via 51d) to a control device (62); wherein a load pressure sensor (e.g. 59) is coupled to the control device.”

Kajita is directed to a hydraulic drive system capable of maintaining a metered range of flow to a plurality of actuators as the motor speed decreases. (See Kajita, Col. 3, ll. 4-8). As seen in Fig. 1, pressure compensating valves 38, 39, 40 are **upstream** of directional control valves 32, 33, 34. (Kajita, Fig. 1; Col. 7, ll. 5-25). In contrast to the flow-sharing problem addressed in Kajita, amended claim 10 is directed to making the angular swing velocity of the linkage generally constant through varying swing angles. In a post-compensator arrangement, amended claim 10 requires that the flow-compensation device be

positioned **downstream** of the directional flow device. This differs from the arrangement in Kajita, where the pressure compensating valves are **upstream** of the flow control valves. In addition, even if the hydraulic circuit in Kajita supplies a constant metered flow to the plurality of actuators, there may be a non-linearity in the angular swing velocity of a given linkage element due to the kinematics of the linkage. This problem is addressed by adjusting the source of variable pressurized fluid to maintain a generally constant angular swing velocity of the linkage using the flow-compensation device.

The Examiner also states that Arai discloses a “fluid flow control apparatus for an excavator (column 1 line 5-6) comprising a motor (3) of a swing system and a flow compensation device (10) coupled to a directional flow device (8), with a fluid flow biasing device (connected to either Pi3 or 13) including an actuator coupled to a flow metering member of the flow compensation device; wherein a fluid pressure (via line to 13) of the swing system is in communication with the actuator, or the actuator is coupled (via Pi3) to a control device (14); wherein a pressure sensor (e.g. generating Ps1) is coupled to the control device; wherein the signals to the flow compensation device control the flow rate to the swing motor (e.g. column 2 line 2-6).”

Similar to the discussion for Kajita above, Arai is also directed to a flow-sharing solution, disclosing a hydraulic control apparatus capable of supplying a hydraulic fluid at a proper flow rate to each of a plurality of actuators when the gross follow rate exceeds the pump delivery flow rate. (See Arai, Col. 2, ll. 58-62). As seen in Fig. 1, pressure- compensating type unloading valves 28, 29 are **upstream** of directional control valves 34, 35, while bucket preferential valves 18, 21 are **upstream** of control valves 6, 7, 9. (See Arai, Fig. 1; Col. 5, ll. 15-58; Col. 4, ll. 43-65; Col. 5, ll. 1-7). In contrast, amended claim 10 is directed to making the angular swing velocity of the linkage generally constant through varying swing angles. In a post-compensator arrangement, amended claim 10 requires that the flow-compensation device be positioned **downstream** of the directional flow device. This differs from the arrangement in Arai, where the pressure compensating valves are **upstream** of the control valves. In addition, as with Kajita described above, even if the hydraulic circuit in Arai supplies a constant flow to the plurality of actuators, there may be a non-linearity in the angular swing velocity of a given linkage element due to the kinematics

of the linkage. This problem is addressed by adjusting the source of variable pressurized fluid to maintain a generally constant angular swing velocity of the linkage using the flow-compensation device.

Neither Kajita nor Arai teaches or suggests a flow-compensation device positioned **downstream** of a directional flow device. Additionally, neither Kajita nor Arai teaches or suggests the step of **adjusting the source of variable pressurized fluid to maintain a generally constant angular swing velocity of the linkage using the flow-compensation device**. Therefore, Applicants respectfully submit that Kajita or Arai does not anticipate the present invention.

Accordingly, Applicants request that the Examiner withdraw this rejection of independent claim 10.

#### **Dependent Claims 11-15**

Dependent claims 11-15 were also rejected pursuant to 35 U.S.C. § 102(b) as being anticipated by either Kajita or Arai. The dependent claims should be allowed for the reasons set out above for claim 10 from which they depend. Applicants therefore request that the Examiner withdraw this rejection of these claims.

#### **Rejections under 35 U.S.C. § 103(a)**

The Examiner has also rejected claims 1-8 under the obviousness provisions of 35 U.S.C. § 103(a) as allegedly being unpatentable over Kajita in view of Lech. Applicants have cancelled claims 1-8, so this rejection is rendered moot. The Examiner has also rejected claims 1-7 and 9 under the obviousness provisions of 35 U.S.C. § 103(a) as allegedly being unpatentable over Arai in view of Morishita. Applicants have cancelled claims 1-9, so this rejection is also rendered moot.

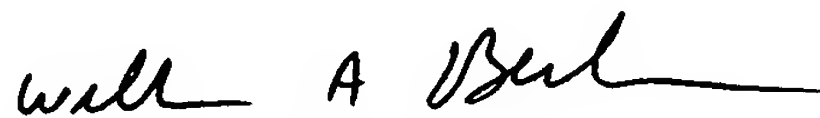
#### **New Claims**

With this response, new claims 16-17 have been added to more clearly define the invention. Support for these claims may be found in the specification. No new matter has been added. New claims 16-17 depend from claim 10, which has been discussed above. Accordingly, Applicants request that the Examiner allow new claims 16-17.

**Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. The Examiner is courteously invited to telephone the undersigned representative if it is believed that an interview might be useful for any reason.

Respectfully submitted,

A handwritten signature in cursive script, reading "William A. Beckman", written over a horizontal line.

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